THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RALPH DAMMEL,
JUERGEN LINGNAU, GEORG PAWLOWSKI,
and JUERGEN THEIS

Appeal No. 93-4092
Application 07/491,813[1]

ON BRIEF

Before JOHN D. SMITH, GARRIS and PAK, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3 through 6, 15, and 16. Claims 7 through 14 stand withdrawn

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[1] Application for patent filed March 12, 1990.

from further consideration as directed to a non-elected invention.

The subject matter on appeal is directed to a radiation-curable mixture comprised of an acid-curable compound and 0.5 to 50% by weight of a compound which forms an acid under the action of high-energy radiation. Importantly, the compound which forms an acid contains aliphatically bound chlorine or bromine and has a pK_a value of less than about 12. Recording material produced from the mixture has a relatively high sensitivity and improved resolution and, in addition, does not exhibit image fogging after development. To describe the invention in greater detail and illustrate the claims on appeal, claim 1 is reproduced as follows:

1. A radiation-curable mixture which can be cured by means of high-energy radiation, which comprises about 0.5 to 50% by weight of a compound which forms an acid under the action of high-energy radiation, and an acid-curable substance in an amount sufficient to decrease the solubility of the mixture upon exposure to actinic radiation, wherein the compound which forms an acid contains at least one aliphatically bound chlorine or bromine atom and has a pK_a value of less than about 12, and is developable in aqueous-alkaline developer solutions.

The references of record relied upon by the examiner are:

Laridon et al. (Laridon)	3,615,455	Oct. 26, 1971

Rosenkranz et al. (Rosenkranz, '084)	3,686,084	Aug. 22, 1972
Rosenkranz et al. (Rosenkranz, '560)	3,692,560	Sep. 19, 1972
Pacifici et al. (Pacifici)	3,912,606	Oct. 14, 1975
Ito et al. (Ito)	4,491,628	Jan. 1, 1985
British Patent	1, 163,324	Sep. 4, 1969
Wayne (European Pat.)	0 164 248	Dec. 11, 1985
Feely (European Pat.)	0 232 972	Aug. 19, 1985

Bruns et al. (Bruns), "A Study of Catalytically Transformed Negative X-Ray Resists, Based On Aqueous Base Developable Resin, An Acid Generator And A Crosslinker", Microelectronic Engineering, No. 6, 1987, pp. 467-471.

The appealed claims stand rejected under 35 U.S.C. 102(b) as anticipated by or in the alternative under 35 U.S.C. 103 over either of Ito, Rosenkranz '084, Bruns, Laridon, Pacifici, Feely, Edmund, or the British Patent. The appealed claims also stand rejected under 35 U.S.C. 103 as unpatentable over either of Ito, Rosenkranz '084, Rosenkranz '560, Bruns, Laridon, Feely, or Edmund in view of either Laridon or Pacifici.

We reverse.

It is the examiner's position that the basic idea of using an acid generator to cure various acid-curable material "is extremely well-known in the photographic arts". To the extent that the relied upon references describe radiation curable mixtures containing an acid-curable compound in combination with

compounds which form an acid under the action of high energy radiation, the examiner's broad finding is correct. However, appellants' claims require a specific class of defined acid generators, i.e., compounds which form an acid under action of high energy radiation which contain at least one aliphatically bound chlorine or bromine atom and which have a pK_a value of less than about 12. While the relied upon references describe acid generators having aliphatically bound chlorine or bromine, none of the prior art reports the pK_a value for any of the prior art compounds. With respect to the claimed pK_a value, the examiner contends that this is an inherent feature of the prior art acid generating compounds, and this is the principal and dispositive issue raised in this appeal.

The examiner criticizes appellants for failing to provide convincing evidence in the record to show that the pK_a value of the claimed compounds differ from the prior art compounds described in the relied upon references. It is the examiner, however, who carries the initial burden of furnishing objective evidence or sound scientific reasoning to support a conclusion that the prior art compounds necessarily or inherently possess pK_a values less than about 12. Compare In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). No convincing objective

evidence or sound scientific reasoning has been offered by the examiner. In this regard, it is apparently the examiner's position that because prior art acid generating materials or compounds contain aliphatically bound chlorine or bromine one would expect the compounds to have pK_a values of less than about 12. But there is no basis to support such an assertion or belief. Indeed, appellants vigorously refute the contention that such compounds containing aliphatically bound chlorine, such as the triazine compound disclosed by the Bruns publication, possess a pK_a within the range claimed. See the argument in the reply brief at page 2.

Based on the record before us, we are constrained to reverse the examiner's prior art rejections.

REVERSED

JOHN D. SMITH
Administrative Patent Judge)

BRADLEY R. GARRIS
Administrative Patent Judge) BOARD OF PATENT APPEALS AND INTERFERENCES

CHUNG K. PAK
Administrative Patent Judge)

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